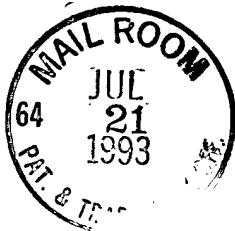


#20  
3 of 3



PATENT  
07/352,530

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of	:	Before the Examiner:
R. A. Fabbio et al	:	A. Jankus
Serial No.: 07/352,530	:	Group Art Unit: 2301
Filed: 5/15/89	:	Intellectual Property
Title: OBJECT DATABASE-DRIVEN	:	Law Department
INTERACTIVE SHELL FOR	:	International Business
A DATA PROCESSING SYSTEM	:	Machines Corporation
	:	11400 Burnet Road
July 16, 1993	:	Austin, Texas 78758

CERTIFICATE OF MAILING

94-1648

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D. C. 20231 on July 21, 1993.

16 Jan

Barbara A. Rogers

Barbara A. Rogers      July 16, 1993  
Signature                      Date

REPLY BRIEF PURSUANT TO 37 C.F.R. 1.193(b)

Honorable Commissioner of Patents and Trademarks  
Washington, D. C. 20231  
Sir:

Please enter the following reply brief, submitted pursuant to 37 C.R.F. 1.193(b), for the above identified application. This reply brief only addresses new points of argument raised by the Examiner's Answer dated May 20, 1993,

and is timely filed within two months of such Examiner's Answer.

I.

The following are new points of argument raised in the Examiner's Answer dated May 20, 1993.

- 1) Claim 27 was rejected under 35 U.S.C. 101 as being directed to nonstatutory subject matter by analogy to the printed matter exception to 35 U.S.C. 101.
- 2) The Specification was objected to under 35 U.S.C. 112 first paragraph, as failing to adequately teach how to make and/or use the invention, i.e. failing to provide an enabling disclosure.
- 3) Claim 27 was rejected under 35 U.S.C. 112, first paragraph, for the reasons set in the objection to the specification under 35 U.S.C. 112, first paragraph.
- 4) Claim 27 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.
- 5) Claim 27 was rejected under 35 U.S.C. 103 as being unpatentable over the well-known data processing technique of storing a "computer program" on storage media for later use by a computer.

II.

Applicants have amended Claim 27 in response to these new grounds of rejection, such amendment being made in the Appendix to this reply brief, which immediately follows the attorney's signature.

III.

Appellant now responds to these new points of argument raised by the Examiner's Answer.

1) New Point: Claim 27 was rejected under 35 U.S.C. 101 as being directed to nonstatutory subject matter by analogy to the printed matter exception to 35 U.S.C. 101.

Response: Applicants assert that the claimed subject matter falls within at least one of the four statutory classes of 35 U.S.C. § 101 and does not fall within the printed matter exception to 101.

Support for Response: An invention may be patented only if it falls within one of the four statutory classes of subject matter of 35 U.S.C. § 101, e.g. process, machine, manufacture or composition of matter, see Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 181 USPQ 673 (1974). Section 101 of the Patent Act describes the range of subject matter that is eligible for patent protection. It states that anyone who "invents or discovers any new and useful process, machine, manufacture, or composition of matter" may obtain a patent for this innovation<sup>1</sup>. The legislative history of 35 U.S.C. § 101 demonstrates that Congress intentionally worded the section broadly so it would encompass wide areas of

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<sup>1</sup>35 U.S.C. § 101 (1976).

unforeseen invention<sup>2</sup>. In construing 35 U.S.C. § 101, the Supreme Court in Diamond v. Diehr, 450 U.S. 175, 209 USPQ 1 (1981) and Diamond v. Chakrabarty, 447 U.S. 303, 206 USPQ 193 (1980) has applied a broad interpretation to statutory subject matter so as "to include anything under the sun that is made by man". Any process, machine, manufacture, or composition of matter constitutes statutory subject matter unless it falls within a judicially determined exception to section 101 (emphasis added). In re Pardo, 684 F.2d at 916, 214 USPQ at 677 (CCPA 1982). The last three classes refer to physical things or products. Ex parte Lyell, 17 USPQ2d at 1551 (Board of Patent Appeals and Interferences 1990). The major exception, if not the only exception, in the area of computer processes is the mathematical algorithm. Other areas of judicially defined exceptions to patentability under 35 U.S.C. § 101 include laws of nature, physical phenomenon, and abstract ideas. Diamond v. Diehr, supra.

A computer program on a medium is clearly a physical thing or product. Thus, the claimed subject matter falls within one of the four statutory classes of 35 U.S.C. § 101. Ex parte Lyell, supra. Applicants have previously shown, in the original brief filed November 23, 1992, that the claimed subject matter is both a "subcombination" of a machine and an article of manufacture, which are both listed as being statutory under 35 U.S.C. § 101<sup>3</sup>.

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<sup>2</sup>S. Rep. No. 1979, 82d Cong., 2d Sess. 5 (1952), *reprinted in* 1952 U.S. Code Cong. and Admin. New 2394, 2399; H. R. Rep. No. 1923, 82d Cong., 2d Sess. 6 (1952).

<sup>3</sup>However, an Applicant who claims a product is not required to state whether it is a machine, manufacture, or composition of matter, and products may fall into

As Applicants have shown that the claimed subject matter falls within several of the four statutory classes of 35 U.S.C. § 101, Applicants respectfully submit that they are entitled to a patent unless the claimed subject matter falls within a judicially determined exception to 35 U.S.C. § 101. In re Pardo, supra. The issue is thus whether a computer program, residing on a computer compatible medium, has been judicially recognized as being non-statutory subject matter. If not, Applicants are entitled to a patent as a matter of right<sup>4</sup>.

The Examiner states the claims are directed toward nonstatutory subject matter by analogy to the printed matter exception to 35 U.S.C. § 101.

Applicants submit that under the holding of In re Jones, supra., Applicants' claimed invention is not printed matter because it has no form of words or other symbols whose primary purpose is to convey intelligence to a human reader<sup>5</sup>. Rather, what is formed on the computer compatible medium is an arrangement of computer compatible information,

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alternative classes, e.g. a machine or manufacture. Ex Parte Lyell, supra.

<sup>4</sup>The patent statutes give to inventors the right to a patent upon compliance with their provisions, and neither the rules promulgated by the Patent Office nor the interpretation placed upon them can detract from these rights. In re Stempel, 113 USPQ 77, 81 (CCPA 1957). Under 35 U.S.C. § 102 an applicant is "entitled to a patent unless" it is shown that one or another of the prohibitory provisions therein, or elsewhere in the statute, applies. Id.

<sup>5</sup>The policy behind the printer matter exception to 35 U.S.C. § 101 is to prevent patents from issuing for the mere arrangement of printed matter on paper. In re Jones, supra.

which has been found to be patentable subject matter as exemplified by Ex parte Lang, supra.<sup>6</sup>; In re Jones, supra.<sup>7</sup>; and Ex parte Blackie, supra. The medium is devised, made, and used as a component part of a machine or data processing system. Applicants are claiming a medium where the arrangement of the indicia are used by a machine to perform specific novel and nonobvious claimed operations. This unique arrangement of indicia on the medium contain sequences of instructions that direct computers to perform various tasks. As functionality is provided by the computer program<sup>8</sup>, as opposed to the mere arrangement of printed matter on paper, Applicants' claimed invention does not comprise printed matter.

Applicants have amended Claim 27. The claim, as amended, would not read on mere words on paper, and thus no printed matter exists. The underlying policy concerns are adhered to, as intelligence is not being conveyed to a human by reading the words. Cincinnati Traction Co. v. Pope, 210 F. 443 (6th Cir. 1913).

Even assuming arguendo that printed matter does exist, Applicants show that printed matter in an article of manufacture can be given patentable weight. In re Miller, supra. The fact that mere printed matter by itself is not

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<sup>6</sup>A record card for controlling the operation of accounting machines is not merely covering printed matter.

<sup>7</sup>Machine readable disk is patentable subject matter, and not words or other symbols intended to convey intelligence to a person.

<sup>8</sup>The computer program is recited as a means for claim, which by definition includes a means for performing a specified function. 35 U.S.C. 112 (sixth paragraph).

patentable subject matter, because non-statutory, is no reason for ignoring it when the claim is directed to a combination. In re Miller, supra. Here, there is a functional relationship between the computer program and the computer compatible medium. The computer program resides on the medium where the arrangement of indicia on the medium contain sequences of instructions that direct computers to perform various tasks. Therefore, the functional relationship to carry out the claimed invention is met. In re Miller, supra. In addition, if the alleged printed matter is capable of producing physical results, it is deemed to be structure and not mere printed matter. In re Jones, supra., footnote 2. The claimed computer program is capable of producing physical results as the program comprises means for sending a first request, means for receiving a value, means for sending a second request, means for obtaining access to a service, etc. These physical results thus remove the printed matter from being construed as mere words or other symbols intended to convey intelligence to a human being. This structure analysis, and resulting finding of patentable subject matter, is consistent with the holdings in Ex parte Lang, supra., In re Jones, supra, In re Miller, supra., In re Royka and Martin, 180 USPQ 580 (CCPA 1974), In re Gulack, supra., and Ex Parte Carver, supra. Nor does the fact that the claimed subject matter is devised, made, and used as a component part of a machine in order to produce these physical results detract from this finding of structure, see e.g. Ex parte Lang, supra., In re Jones, supra., Ex parte Blackie, supra. and Ex parte Carver, supra.

In summary, Claim 27 does not recite printed matter as defined by the courts. Even assuming that Claim 27 does recite printed matter, the structural and functional characteristics of the alleged printed matter overcome the printed matter rejection, as the claims are not drawn to a mere arrangement of words or symbols on paper. Rather, the claimed invention encompasses a medium where the arrangement of the indicia are used by a machine to perform specific claimed operations/functions.

In conclusion, 35 U.S.C. § 101 specifically allows for the claimed subject matter, which is both a subcombination of a machine and an article of manufacture; and there is no judicially determined exception to computer programs being non-statutory, as printed matter or otherwise.

2) **New Point:** The specification is objected to under 35 U.S.C. 112 first paragraph, as failing to adequately teach how to make and/or use the invention, i.e. failing to provide an enabling disclosure.

**Response:** The Examiner objected to the specification under 35 U.S.C. § 112, first paragraph, as failing to adequately teach how to make and/or use the invention, i.e. by failing to provide an enabling disclosure. The Examiner states that Applicants have not disclosed how a mere program alone, without the use of the computer, can carry out the functions recited in the means plus function language; and that a computer program on a computer compatible medium, without more, is incapable of function without being read and interpreted by a computer. The Examiner then rejects Claim 27 under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.



Applicants traverse by pointing to Figures 7 and 8, and the related discussions at Specification page 43, line 13 through page 44, line 27. The menus, dialogues, and instances of a system resource are represented as object within an object database. Data within these interface objects reflect the topology of the system resources. The interface tool traverses these interface objects based upon the data within the interface objects themselves. Further evidence of sufficient specification support for the claimed invention is that Claim 1 has not been rejected under 35 U.S.C. 112, first paragraph. This Claim 1 recited the identical elements in the body of the claim. Merely placing an otherwise enabling claimed invention on a computer media cannot suddenly cause deficiency in the specification. The specification provides enabling disclosure whether the claimed invention is limited to reside on a media or not.

The Examiner is in essence stating that the claims are not enabling (how can "a mere computer compatible medium, without more, ... carry out the functions recited"). This is clearly erroneous. It is the specification that must contain a written description to enable a person how to make and use the invention. Applicants have shown above that requisite description is contained in the Specification. Admitting that additional elements are necessary to render the device operative, it does not necessarily follow that the omission of the elements invalidates the claim. Deering v. Winoma Harvester Works, 155 U.S. 286 (1894). As the Deering court pointed out by analogy, "the invention of a needle with the eye near the point is the basis of all the sewing machines used; but the methods of operating such a needle are many", and there is no obligation to include the

method of operation with every claim in which the needle was an element. Further, as succinctly stated in Special Equipment Co. v. Coe, Commissioner of Patents, supra., "The statutes permit, and it is the settled practice of the Patent Office, many times sustained by this Court, to allow claims to a combination and also its subcombinations", citing Railroad Co. v. Dubois, 12 Wall. 47, 60; Deering v. Winona Harvester Works, supra.; Leads & Catlin v. Victor Talking Machine Co., 213 U.S. 301, 318; Altoona Theaters v. Tri-Ergon Corp., 294 U.S. 477, 487, 24 USPQ 308, 313; Mercoird Corp. v. Mid-Continental Co., 320 U.S. 661, 667, 60 USPQ at 25; In re Jones, supra.; and In re Miller, supra. Other examples of needing further elements to enable or use a claimed invention are:

- (i) a claim directed to an automobile engine (no need to recite gasoline or other type of fuel in the claim);
- (ii) a computer or computer component (no need to recite electricity or other power source as part of the claim); and
- (iii) a printer (no need to recite paper in the claim).

Applicants have no duty to claim more than what they regard as their invention, Ex parte Blackie, supra. The use of a media to actuate functions in non-claimed structure has been expressly allowed in Ex parte Blackie, supra., In re Jones, supra., and Ex parte Carver, supra.

As the Examiner is basing the objection to the Specification on alleged limitations that are not present in the claimed invention (a computer product "alone"), the objection to the Specification is clearly erroneous. The

enablement requirement of 35 U.S.C. § 112, first paragraph, has been met as the specification clearly shows and describes representing interface objects in an object database, and dynamically associating the interface objects to logical frame presentations based upon data within the interface object.

3) New Point: Claim 27 was rejected under 35 U.S.C. 112, first paragraph, for the reasons set for regarding the objection to the Specification.

Response: In like manner, the rejection of Claim 27 by the Examiner using the reasons given for the objection to the Specification are also erroneous, for the reasons described hereinabove regarding the objection to the Specification.

4) New Point: Claim 27 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Response: The Examiner states that Applicants have not claimed the subject matter which Applicants regard as their invention. Applicants traverse by showing that the Examiner has failed to establish that Applicants have not claimed the subject matter which is regarding as their invention. Absent evidence to the contrary, it is assumed that Applicants have claimed the subject matter which they regard as their invention. It is the burden of the Patent Office to show otherwise. The Patent Office has offered no evidence that the claimed subject matter is not what Applicants regard as their invention.

In the alternative, the Examiner states the claims are incomplete. Applicants have amended Claim 27 to recite that the recited means for elements are for 'causing' a data processing system to perform the recited functions.

5) New Point: Claim 27 was rejected under 35 U.S.C. 103 as being unpatentable over the well-known data processing technique of storing a "computer program" on storage media for later use by a computer.

Response: Applicants show error in this rejection as follows. First, the assertion made in regard to Claim 27 is not relevant to the subject matter being claimed. Applicants are not claiming a 'storing' operation, nor are Applicants claiming a 'later use by a computer'. Thus, these comments do not show that the claimed subject matter is unpatentable under 35 U.S.C. § 103.

Applicants further establish error by showing that the Examiner has failed to establish a prima facie case of obviousness. In making a rejection under 35 U.S.C. § 103, the initial burden is on the Examiner to make out a prima facie case of obviousness. Once made, the burden then shifts to appellant to rebut it with objective evidence of nonobviousness. See In re Palmer, 451 F.2d 1100, 172 USPQ 126 (CCPA 1971). In establishing a prima facie case of obviousness, the Examiner must present a rationale or reason why the artisan would have been led to do that which the claims specify as the invention. The reason must stem from something suggested by the prior art or from demonstrated common knowledge of the artisan, or both, and not from the inventor's disclosure. See Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988);

Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 227 USPQ 657 (Fed. Cir. 1985); and In re Sernaker, 702 F.2d 989, 217 USPQ 1 (Fed. Cir. 1983).

In failing to establish a prima facie case of obviousness, the Examiner failed to allege or show that the claimed elements in the body (as opposed to the preamble) of Claim 27 would have been obvious. The Examiner has not shown any rationale why a person of ordinary skill in the data processing authentication art would be motivated to implement or otherwise achieve Applicants' claimed invention. Thus, the Examiner has failed to make a prima facie case of obviousness, and these claims have been erroneously rejected under 35 U.S.C. § 103.

As a prima facie showing of obviousness has not been made, the burden has not shifted to Appellants to rebut such a finding. These Claims 27 are thus shown to have been erroneously rejected under 35 U.S.C. § 103.

In any event, to advance the issues in this case, Appellants will now show that the claimed invention would not be obvious. Claim 27 is a "means for" claim that essentially recites the same elements as those of Claim 1. The claimed invention is not merely a computer medium, but rather a medium containing specific "means for" elements. The elements of Claim 1 were not found to be obvious over the well-known data processing technique of storing a computer program on storage media. These elements are similarly nonobvious when recited to be residing on a particular medium in Claim 27. Having the "means for" elements on a computer medium does convert an otherwise non-obvious invention into an obvious invention. The structural relationship of the medium, the recited means for elements,

provides new nonobvious functionality not known in the prior art.

Applicants are not claiming a medium having random indicia thereon, but rather a medium where the arrangement of the indicia are used by a machine to perform specific novel and nonobvious claimed operations. This unique and nonobvious arrangement of indicia on the medium contain sequences of instructions that direct computers to perform various tasks. Applicants are claiming the specific means for using an object database to present logical frame presentations to a user of a data processing system.

As the Examiner failed to consider the claimed invention as a whole, but rather based the obviousness rejection solely on the preamble of the claims, Claim 27 was erroneously rejected under 35 U.S.C. § 103.

#### CONCLUSION

The basic purpose of the patent system is to encourage the production and disclosure of new knowledge by offering inventors an opportunity to recover the costs of inventing. The patent system achieves this purpose by granting inventors exclusive rights to preclude others from making, using, or selling their claimed invention for a limited period of time. Society benefits from patent grants by receiving access to the disclosure of the patented invention. Because of the disclosure requirements of the patent laws, patent protection of software inventions allows for an increase in technological knowledge in the software industry. Disclosure makes this information more freely available for study and use. This new knowledge spreads throughout the software industry with increased speed and

triggers new software inventions. This software innovation helps society use scarce resources more efficiently, as wasteful duplication of effort is eliminated.

The technological advancement in the computer industry that patent protection of computer programs encourages thus improves the general standard of living in America. Several empirical studies have concluded that technological advancement is a major reason for growth per capita income in the Western world over the last few centuries<sup>9</sup>. In addition, if modern American society continues its trend of emphasizing the importance of information processing and data collection, the growth and health of America's economy increasingly will depend upon advances in computer software technology<sup>10</sup>. Patent protection of computer programs insures technological advancement in this area. Valuable inventions should be given protection of value in the real world of business and the courts<sup>11</sup>.

No basis exists for a moratorium on protection of inventions embodying or using computer programs. In re de Castelet, 195 USPQ 439 (CCPA 1977). Such broad prohibition could subject meritorious statutory inventions to unabatable piracy, and could forestall invention disclosure, the hallmark of the patent system, Id. Any justification for

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<sup>9</sup>W. Nordhaus, Invention, Growth and Welfare: A Theoretical Treatment of Technological Change 8 (1969); Barzel, Optimal Timing of Innovations, 50 Rev. Econ. Stat. 348, 354 (1968).

<sup>10</sup>Goodman, The Policy Implications of Granting Patent Protection to Computer Software: An Economic Analysis, 37 Vand. L. Rev. 147 (1984).

<sup>11</sup>In re Ruschig, 145 USPQ 275, 286 (CCPA 1965).

barring the issuance of computer software patents because of high administrative costs<sup>12</sup> or other difficulties in searching prior art is at odds with the Constitution's goal of furthering scientific achievement<sup>13</sup>, and is further contrary to Congressional intent when it ratified 35 U.S.C. § 101.

The Patent Office, in discharging its duties to the public, has commendably required applicants for patents to provide an adequate quid pro quo in exchange for the monopoly sought. It should be equally alert in protecting the rights of applicants who have legally and properly established such a right. To do otherwise would be to unjustly enrich the public at the expense of the inventor, a result we feel confident Congress could not have intended. In re Herr, 153 USPQ 548 (CCPA 1967).

#### IV.

Appellant requests an oral hearing for this appeal.

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<sup>12</sup>See Parker v. Flook, 437 U.S. at 587-588, where the acting Commissioner of Patents and Trademarks argues that patent protection of software algorithms "will have a debilitating effect on the rapidly expanding computer 'software' industry, and will require him to process thousands of additional patent applications".

<sup>13</sup>goodman, supra.



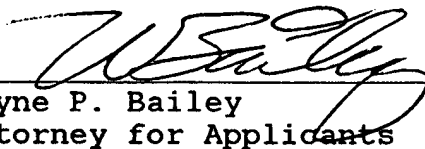
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For all the foregoing, Appellant seeks the reversal, and allowance, of Groups I-XIV.

Respectfully submitted,

R. A. Fabbio et al

BY

  
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APPENDIX

1 Claim 27 (Twice Amended). A computer program, residing on a  
2 computer compatible medium in a non-human readable form,  
3 having means for causing a data processing system to present  
4 [presenting] items for selection by a user of [a] said data  
5 processing system, said computer program comprising:

6 means for causing said data processing system to  
7 represent [representing] a plurality of interface  
8 objects in an object database; and

9 means for causing said data processing system to  
10 dynamically associate [associating] different ones of  
11 said interface objects with a plurality of logical  
12 frame presentations based upon data within each of said  
13 different ones of said interface objects.